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FACT SHEET

FOR PART-TIME
FARMERS AND
GARDENERS



UNITED STATES
DEPARTMENT
OF AGRICULTURE

Growing Peanuts— on an Acre or Less

Peanuts are a versatile crop. They do not need a large area for planting and can grow under a variety of conditions. Peanuts are being planted in anything from 10-to 12-inch pots, abandoned washtubs, and small gardens to 1-acre plots¹ and large commercial fields.

Peanuts are unusual plants. They have yellow flowers above the ground and fruit beneath the soil. A few days after fertilization, the petals wilt. From 5 to 7 days later, an ovary supported on a modified stem emerges, grows downward, and penetrates the soil to a depth of 1 to 3 inches. The peg (ovary) then grows horizontally in the soil and begins to enlarge to form a pod. Length of time to maturity, pod size, seed size, and number of seeds per pod depend on the type of peanut.

Varieties

Four market types of peanuts belonging to the genus *Arachis* are grown commercially in the United States. They are: (1) Spanish, (2) Runner, (3) Virginia, and (4) Valencia. Virginia and Runner, which are grown south of Maryland, are large-seeded types and generally have 2 seeds per pod. Runner varieties, primarily Florunner, represent 60 percent or more of peanut-growing acreages.

Spanish and Valencia are small-seeded types, Spanish having 2 to 3 seeds per pod and Valencia 3 to 6 seeds per pod. Texas and Oklahoma are the primary areas for growing Spanish varieties. Valencia varieties are grown in New Mexico and Tennessee. Spanish and Valencia have shorter growing seasons, generally maturing in 90 to 120 days. Runner and Virginia mature in 140 to 160 days.

¹Under the terms of the Agricultural Adjustment Act (amended 1977), individual allotment quotas are required for persons wishing to grow more than an acre of peanuts. Anyone growing over an acre without an allotment is subject to a fine of \$504 per ton.



Figure 1.— Vines of the Runner variety, the major peanut type grown in the United States.

Culture

During the 4- to 5-month growing period, peanuts thrive in steady, high temperatures with moderately uniform distributions of moisture. The best soils for growing peanuts are easily-crumbed, well-drained sandy loams. These soils allow pegs to penetrate from 1 to 3 inches. They permit pod removal without excessive losses and easier soil particle removal during harvesting and processing.

To prepare soil for growing peanuts, remove large particles of decaying organic matter such as corn stalks and weeds. Plow to a depth of 6 to 8 inches at least 30 days before planting. Entrench corn stalks and weeds a minimum of 4 inches below the soil surface. You can hasten the decomposition of plant roots and remnants of previous crops by disking and chopping before you plow. Begin to till the soil at least 30 days before planting for proper soil preparation and weed control.

Fertilization

Have your soil tested especially for pH, magnesium, phosphorus, and potassium. If pH is below 6, raise it to a range of 6.2 to 6.4 with either calcitic or dolomitic ground limestone. Dolomitic limestone will correct any magnesium deficiencies. A pH of 6.5 or above is not recommended because essential micronutrients may be “bound” and not available. From the soil test determine the amounts of phosphorus and potassium needed and apply them by broadcasting before final land preparation. Your local county Extension office can tell you how to get your soil tested.

Since peanuts are legumes, they can, with appropriate bacteria (*Rhizobium* spp.), manufacture their own nitrogen. If peanuts have not been grown on the soil before, or if the correct peanut inoculant is not available, use a complete fertilizer (5-10-10, 5-10-20, or 10-10-10) in amounts that will satisfy phosphorus and potassium requirements by soil testing. Consult your Extension agent for soil recommendations you should follow.

Any fertilizer that has to be applied in the row must be thoroughly mixed with the soil before planting. Peanut seeds, like other seeds, are sensitive to “salt” injury when planted too close to fertilizers.

Calcium should be readily available in the soil. If peanut pods do not receive enough calcium they develop “pops disease,” a physiological disorder which prevents seeds from forming. Prevent this disorder by applying gypsum over the plants with a lawn-fertilizer spreader, 3 to 6 pounds per 100 feet of row in a 12- to 18-inch band 10 days after observing the first bloom. Not only does gypsum add calcium to the soil, but it also adds sulfur, a nutrient needed for peanut growth. Gypsum does not change the soil pH significantly.

Planting Times

Peanut seeds germinate rapidly when the soil is suitably warm. However, for highest yields try to seed as early in the season as possible. Seed close to the last frost for higher yields. Early seeding makes possible a greater number of flowering cycles that will increase pod set.

Seed Quality and Treatment

Buy new seeds of the variety and type that you want to plant each year. Choose seed that is treated to prevent soil fungal attack. If you buy seed that is not treated, add a seed treatment fungicide before planting. Soil-borne parasites are drawn to peanuts because they are large and full of nutrients.

Planting Depth

On light sandy soils, plant peanut seeds 1-1/2 to 3 inches deep. In heavier, loamy soils plant seeds only 1 to 2 inches deep. Cover the seed with a uniform layer of soil. Firm soil into position.

Spacing

Spanish types of peanuts produce well when planted in rows 18 to 24 inches apart with 4 to 6 inches between plants within rows. Valencia, Virginia, and Runner produce best in rows spaced 30 to 36 inches apart and with 6 to 8 inches between plants. To achieve adequate numbers of plants, plant 25 percent more seed than needed and thin plants to desired numbers.

Indoor Lighting

Peanut plants thrive in direct sunlight. When planting indoors, place plants in the sunniest part of the room. If necessary, use supplemental (fluorescent) light. A fluorescent fixture with two 40-watt lamps mounted 1 foot above peanut shoots will provide adequate lighting for five pots 6 inches in circumference.

Weed Control

Good weed control is necessary for a successful crop. During a growing season, weeds compete with peanuts for water, nutrients, and light. They are hosts for diseases, parasitic insects, and nematodes. Weeds must be controlled early to prevent the roots from becoming entwined with the peanut pegs.

Cultivate the soil well and clear it of weeds before planting. After planting, control weeds with light cultivations in the centers between rows. *Never cultivate too deeply.* Deep cultivation breaks pegs, digs up buried organic matter, and throws soil onto plants—all of which contribute to reduced peanut yields.

In commercial production, herbicides are used in conjunction with proper land preparation methods to control weeds. For herbicide information contact your local Extension agent.

Irrigation

Supplemental water is usually not required until after flowering. Water, however, is critically needed during pod set and development. To determine whether additional water is needed, estimate the moisture present in the soil. Never irrigate on the basis of plants wilting.

Harvesting

Since peanut plants bloom and set fruit for 2 to 3 months during the growing season, plants will have pegs, immature and mature pods on them. For best yields, harvest plants when most pods are mature. Sometimes, however, you may have to harvest before they reach this stage because of frost or insect infestation.

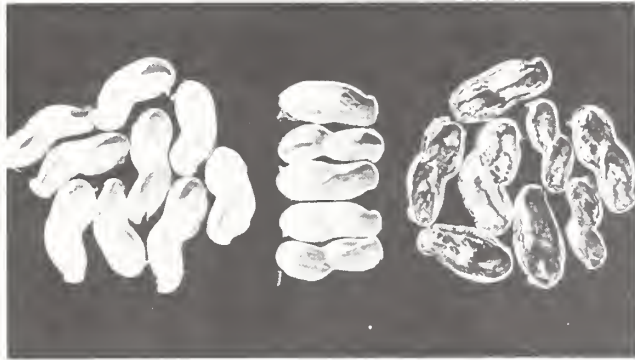


Figure 2.— Growing stages of peanuts: *Left*, immature pods with white walls; *Center*, intermediate pods that are beginning to darken; *Right*, mature pods with brown interwalls.

As pods mature, the hulls become thin, their veins prominent, and their interwalls dark. Immature pods have white walls. To determine when to dig peanuts, pull an occasional plant when its leaves turn from green to yellow and begin to fall. When 70 percent or more of the pods have dark interwalls, it is time to start digging. Spanish varieties will mature earliest, followed by the Valencia, Runner, and Virginia varieties.

Dig peanuts manually with a garden-spading fork, or mechanically, using a single, wide-shoveled plow pulled by a tractor. Shake as much soil as possible from the roots and pods of the plants. Then, invert the plants so that the pods are exposed to sun and air to dry. Moisture content at digging is about 40 percent but should decrease to 10 percent before storing.



Figure 3.— Plants are supported by 1-1/2 inch stakes in center of shocks. Lids from bushel fruit baskets are fitted over the stakes and are supported by crossbars to keep peanuts off the ground.

After the plants have been exposed to sun and air for several days, either stack them to complete drying, or remove and dry the pods separately. Place a stake 1-1/2 to 2 inches square into the ground to provide adequate support for the shock. To prevent spoilage, keep the curing peanuts and vines off the ground. To elevate the peanuts and vines, obtain bushel fruit basket lids. Fit a lid over the supporting stake through a hole in the center of the lid. Support the lid by crossbars 5 inches above the ground.

Freshly dug peanuts can be damaged by even a light freeze. If frost is imminent place plants in a barn or shed after they are dug and until they are dry. The dryness is important because dried pods can tolerate much colder temperatures. Before storage, dried pods should contain no more than 10 percent moisture.

Place pods in bags and keep dry. Since moist conditions encourage molding of pods, do not leave bags of pods on moist garage or basement floors. If pods are molded, discard them. Do not eat molded peanuts or feed them to livestock.

Rotation

Practice crop rotation in planting. Rotation provides better use of plant nutrients and better control of insect pests, weeds, and disease agents. Corn and potatoes are good crops to rotate with peanuts in either 2- or 3-year cycles. Corn and potatoes are clean tilled and require balanced fertilizers. These crops are not bothered by most of the same pests that attack peanuts.

In addition to rotation, various chemicals are used commercially to control weeds, insects, nematodes, and disease-causing agents. For information on local restrictions on the use of pesticides, contact your local Extension agent.

Peanut Pests

The following insects attack some part of the peanut plant or pods: thrips, leafhoppers, corn earworms, cutworms, corn rootworms, fall armyworms, and velvet-bean caterpillars. Several fungal diseases also attack peanuts. A few species of nematodes—threadlike worms—can be very damaging in certain peanut-growing areas. Despite the damage caused by these pests, good yields can be obtained with proper pest management. Check with your Extension agent for current recommendations on pest control.

Sources of Peanut Seed

Peanut seeds are available from seed suppliers. Some suppliers sell peanut seed by variety, and some sell it by type only. Goldkist Seed Company, Auburn, Ga., offers all types and several varieties of each. Both Burpee and Park seed companies offer Valencia and Virginia types.

Processing for Home Consumption

Peanuts may be eaten raw, boiled, or roasted, and have an extremely high nutritional and energy value. Raw, cured peanuts are rich in vegetable protein and oil and contain 564 calories per 100 grams.

The following procedure is used to produce freshly boiled peanuts. Harvest when fully mature, remove pods from vine and stems, wash in a mild solution of kitchen detergent, then rinse in clear water.

After rinsing, place raw peanuts in a boiler and cover them with a medium brine. To make the brine, dissolve 10 ounces of salt (1 cup) for every gallon of water. Cover and boil for 45 minutes or until the kernels are tender. Then pour off the water and drain for an hour.

After these steps, you can either shell the peanuts and eat them or you can preserve them in the refrigerator for as long as 5 days. Boiled peanuts can be frozen after packing in freezer cartons.

To roast peanuts, use a large shallow pan and fill it with peanuts in hulls to a depth of from 1-1/2 to 2 inches. Place the pan in an oven set at from 325° to 350° F. Stir pods occasionally for uniform roasting.

The length of time required for roasting will depend on the moisture content of the peanut. In the early part

of the season, an hour may be necessary. As the moisture content decreases, the length of time for roasting will decrease. If peanuts are quite dry, they may need less than one hour roasting time.

To check for doneness, open a few pods to determine whether roasting is completed. Since roasting will continue until the temperature drops below 180° F., remove the pods from the oven and cool them as quickly as possible.

J. G. Woodruff, author of a book on peanut products (see References), describes many uses for peanuts. Roasted peanuts can be converted into peanut butter, peanut ice cream, peanut milkshakes, cookies, and many other peanut treats.

References

- (1) Woodruff, J. G. 1966. *Peanuts: production, processing and products*. The AVI Publishing Co., Inc., Westport, Conn., 291 pp.
- (2) American Peanut Research and Education Association. 1973. *Peanuts: culture and uses*, 684 pp.

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